USB 3.0 HDMI KVM
with USB 3.0 Hub and Audio and MHL

User’s Manual

Version 1.00

Index

1.

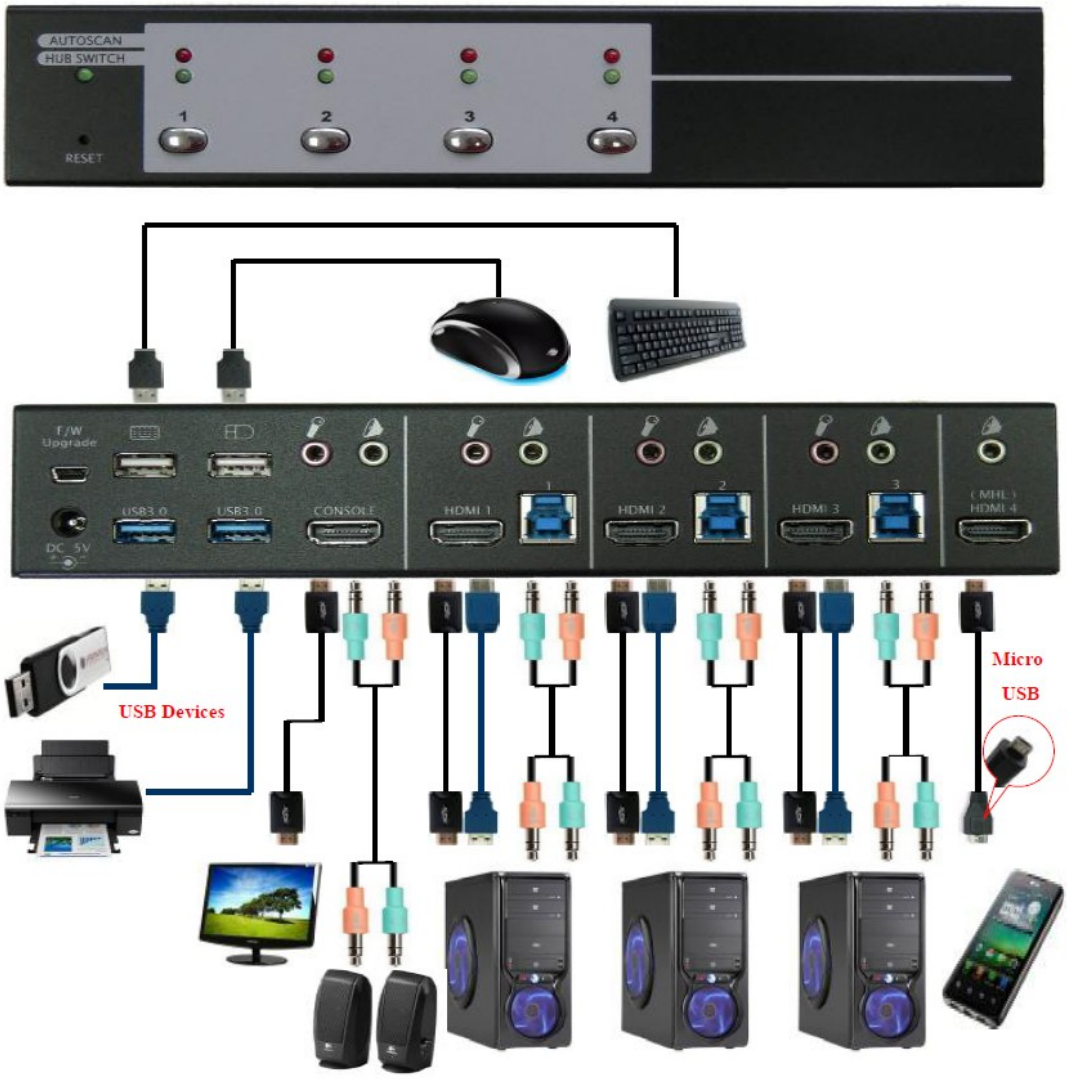
1. Introduction

Thank you for purchasing of USB 3.0 HDMI KVM with USB 3.0 Hub and Audio and MHL. You now have a high quality and durability system to control multiple computers/servers from one console (Mouse, Keyboard, Monitor, Microphone and Speaker).

1.1 Features

1 Controls 3 computers from a single console (keyboard/mouse) over USB connection by using standard USB cables.
2 Supports 1 MHL (Mobile High-Definition Link) smart phone projected displaying via the specific of Micro USB to HDMI and power charged synchronization.
3 Supports USB keyboard/mouse.
4 Compliant with USB Specification Revision 3.0 and USB Device Class Definition for HID Revision 1.11.
5 Three computers can share two USB 3.0 downstream ports.
6 Supports two types of switching:
   a. Push button on front panel
   b. Hot keys on USB keyboard
7 LED display for easy status monitoring.
8 Supply Microsoft Intellimouse 3 ~ 5 Key Mouse & Microsoft Natural Keyboard Pro series.
9 Supports HDMI resolutions up to 1920 x 1200@60Hz, full HD 1080p.
10 HDCP compliant.
11 Supports Windows 98/98SE/2000/ME/XP/VISTA/7/2003, Linux, MAC OS9/OSX, SUN MICRO Solaris 8 or later.
12 Provides USB 3.0 HUB switching in independent method or combination with the host switching (USB HUB Auto-Switch mode).
13 Provides audio switching in independent method or combination with the host switching (enable/disable by hotkey).
14 Auto-Scan function (Time interval can be adjusted between 5-20 seconds when the Auto-Scan function is enabled).
15 Plug and Play (Windows 98/SE users might need your Windows CD to install the HID driver for USB keyboard/mouse.)

1.2 Physical Diagram



1.3 Package Contents

The product you purchased should contain the equipment and accessories shown as follows:

- 1 x 4-Port USB 3.0 HDMI KVM with USB 3.0 Hub and Audio and MHL.
- 2 x HDMI cable.
- 2 x USB 3.0 cable
- 2 x 3.5mm audio/microphone cable.
- 1 x External power adaptor DC 5V 2A
- 1 x Micro USB to HDMI cable (for MHL function)
- 1 x User Manual

2. Specifications

2.1 General

Specification		
Number Of Computer Controlled		3
Selection Method		Push Button/Hot Key
LEDs		Host Selected LED (RED)
		HUB Selected LED (Green)
		Auto Switch & Auto Scan LED (Green)
Compliant with USB Version		USB1.0 / USB1.1 / USB2.0 / USB 3.0
Compliant with HID Version		USB HID 1.11
PC Connectors	Video	4 x HDMI female
	USB	3 x USB 3.0 Type B female
	Microphone	3 x Audio Jack Female (Pink)
	Speaker	4 x Audio Jack Female (Green)
Console port	Video	1 x HDMI female
	Mouse	1 × USB Type A female
	Keyboard	1 × USB Type A female
	Microphone	1 x Audio Jack Female (Pink)
	Speaker	1 x Audio Jack Female (Green)
USB Downstream ports		2 x USB 3.0 Type A female
Auto-Scan Interval		5,10,15,20 sec
DDC, DDC2 monitor		Supports DDC2B, max resolution up to 1920x1200
Operating system supported		Win 98/98SE/ME/2000/XP/Vista/2003/7/ 8, Mac OS9/X, Linux, Sun Micro OS
Cables Included		2 sets of USB 3.0, HDMI and audio cable 1 set of HDMI to Macro USB (for MHL function)
Cable Length		1.5M
Power		By External Adaptor
Output Voltage		5V
Output Current		2A
Hot Pluggable		Yes
Device driver		No
Dimensions (LxWxH)		238 x 91 x 54 mm
Unit Weight		860g

2.2 LED Indicators

- Host Selected Indicators (RED)

  ON: Indicates which PC is available and selected.

  Flash: Indicates which Host PC is selected but is not available

- Hub Selected Indicators (GREEN)

  Indicates which PC is connecting with USB Hub downstream ports..

- Hub auto-switch / Auto-Scan Indicator (GREEN)

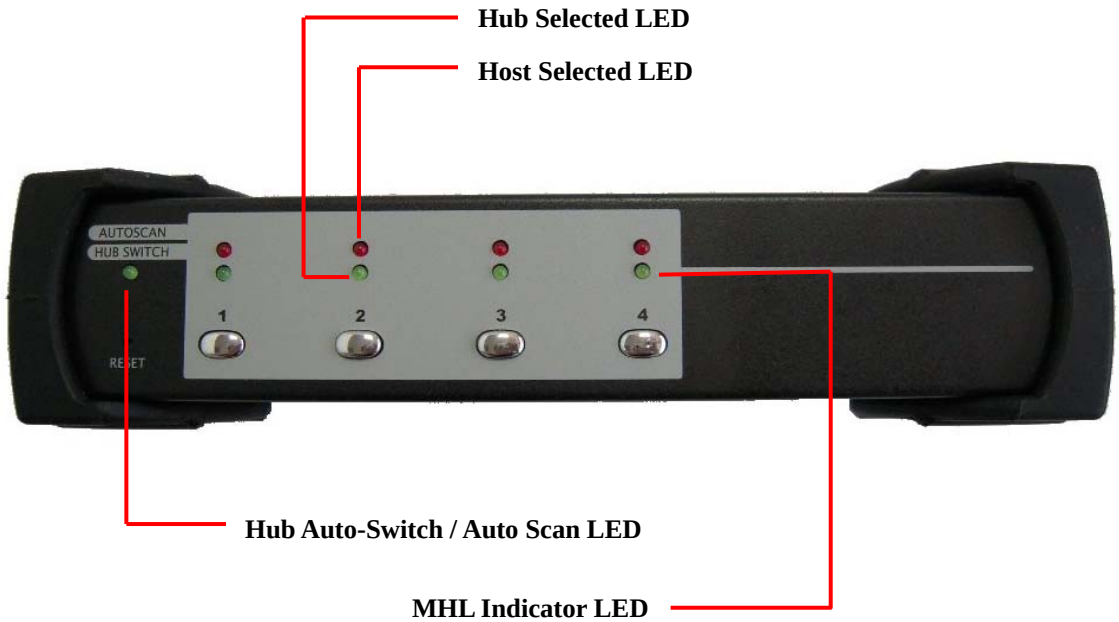
  ON: Hub Auto-Switch mode is active.
  The USB HUB will be switching with the selected PC.

  OFF: Hub Auto-Switch mode is inactive.
  The USB HUB is independent and must be switched by hot key.

  Flash: Auto-Scan mode is active.

- MHL Indicators (GREEN)

  ON: When HDMI port 4 connected to the device built in MHL function.

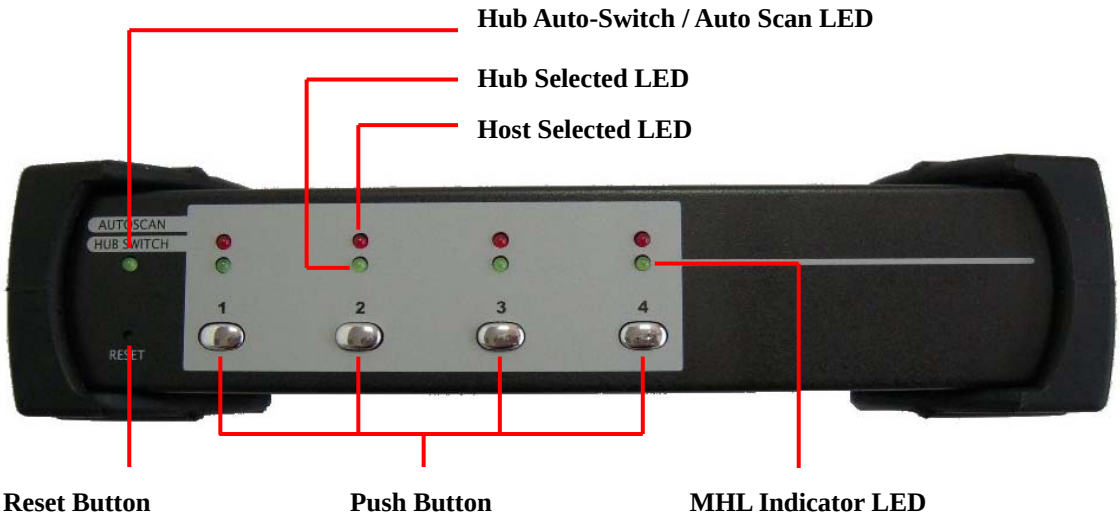


3. Installation

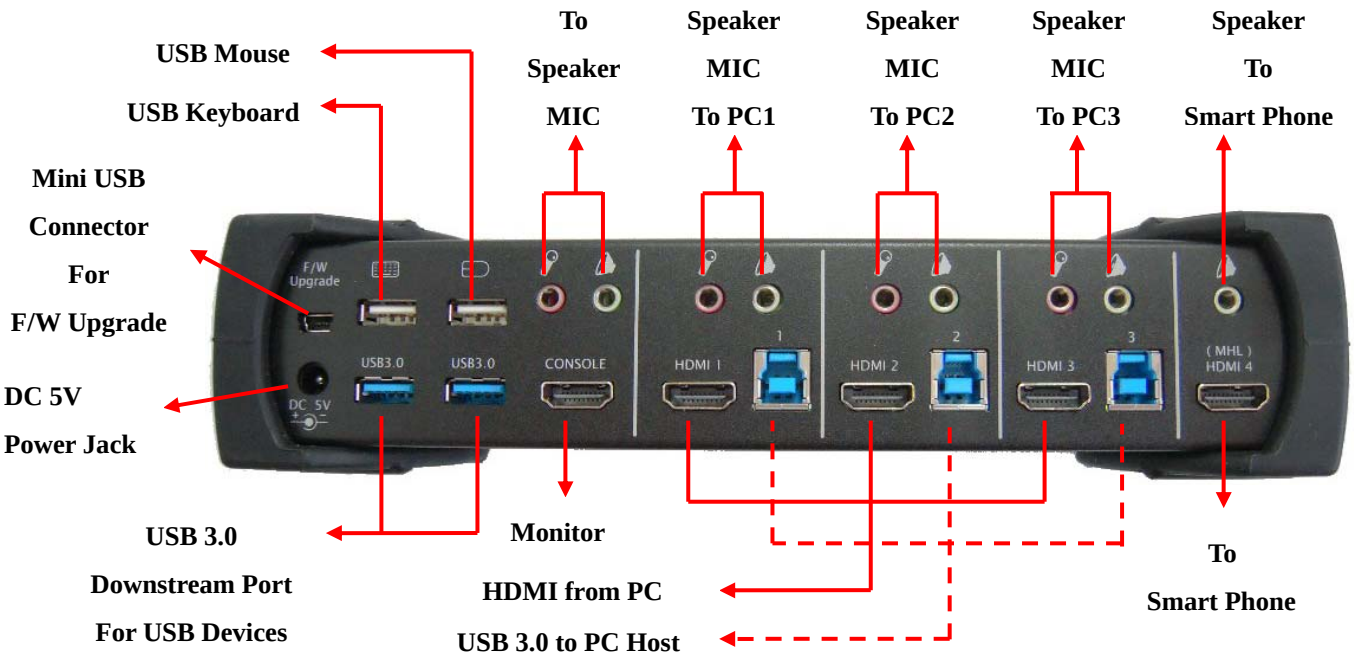
3.1 System Requirements

1 Computer: PC with 1 spare USB port and 1 HDMI port (if you wish to share speakers and/or microphone, computer must also have availablw audio ports)
2 Operating system: Windows 98/98SE/2000/ME/XP/Vista/7/2003/8, Mac OS9/OSX, Linux Kernel 2.3 or later, Solaris 8 or later, Sun Microsystems OS.
3 HDMI cable to computer: HDMI male-to-male cable per computer.
4 USB 3.0 cable: USB 3.0 cable with Type-A end and Type-B end
5 Audio cable: 3.5mm speaker and micphone audio cable
6 One monitor supports HDMI interface
7 USB keyboard/mouse.
8 One speaker and micphone with relative cable if necessary.
9 Other USB device to USB downstream port if necessary.

3.2 Hardware Installation



1 Connects USB keyboard/mouse to the console front ports of KVM.
2 Connects all audio cable to each computer, KVM, speaker and micphone if necessary.
3 Connects other USB devices to USB 3.0 Hub downstream ports if necessary.
4 Connects the monitor HDMI cable to the monitor output port of KVM.
5 Apply DC 5V power adaptor to power this KVM Switch.
6 Connects the HDMI cable between the HDMI port on the computer display card and the HDMI input port of KVM.
7 Make sure that the USB function of your computer is enabled and working properly. Connects the USB 3.0 cable Type-A end to the computer USB port, and the cable Type-B end to the KVM's USB upstream port.
8 Turn on the computers and make sure that the USB ports are enabled and working properly.



3.3 USB enumeration time

This KVM Switch supports USB plug & play; all the components can be added and removed at any time without the need to shut the unit down. However, it will take several seconds to enumerate USB device, the time consumed depends on the number of USB devices and the speed of computer.

3.4 Notice for Sun Micro System user

Due to some Sun Microsystems do not support the USB 3.0 HUB feature during the booting period, if you are using such Sun Microsystems, it is possible that you will see the system show up keyboard detected failed message, screen go to blank for few minutes, then the login screen will come out.

Since Sun Microsystems does not support multiple keyboard and mouse, please make sure only one set of keyboard and mouse on your KVM and your Sun Microsystems computer.

3.5 Driver Installation

3.5.1 OS without driver installation

No driver is needed for the following operation systems.

1. Windows ME/2000/2003/XP/VISTA/7/2003/8
2. MAC OS9/OSX
3. Linux kernel 2.3 or later
4. Sun Microsystems Solaris 8 or later

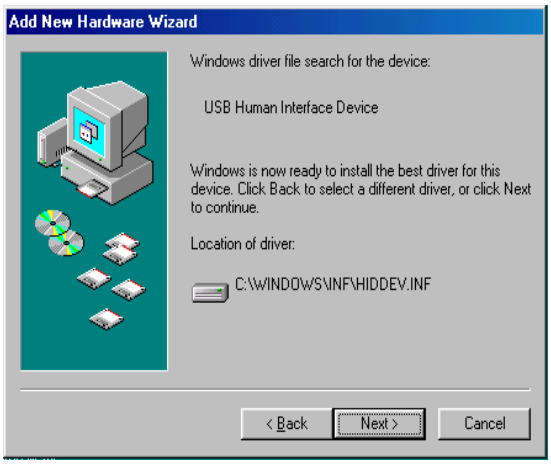
3.5.2 Windows 98/SE

After you connect this KVM Switch to your PC, Windows 98 will automatically detect the device and prompt for the driver installation. Please prepare your Windows 98 CD ready, and install the driver by following the instructions.

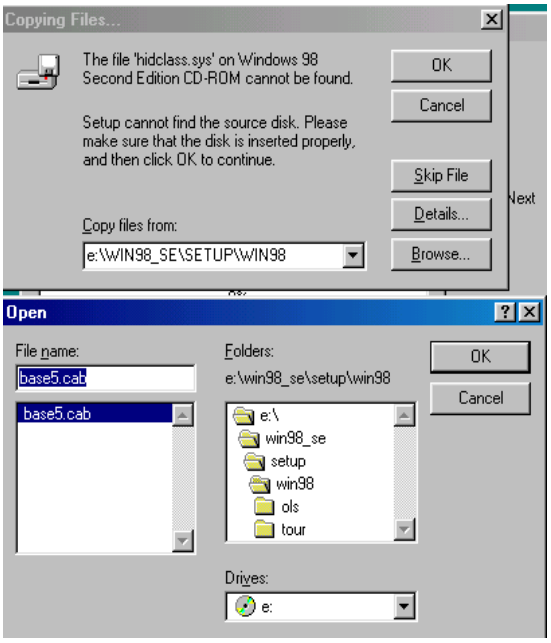
A. Press “Next” to Continue.

B. Tick “Search for the best driver for your device” and press “Next” to continue.

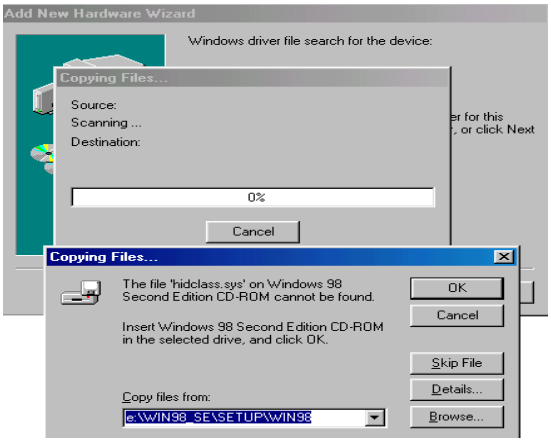
C. Please insert the “Windows 98” CD into your CD-ROM drive. Tick “CD-Rom drive” and press “Next” to continue.



D. Press “Next” to start the installation process.



E. Sometimes Windows cannot locate the necessary driver automatically. So you need to choose “Browse” to specify the location of the driver on your “Windows 98” CD manually.



F. Press “OK” to continue.

G. Press “Finish” to finish installing the USB Human Interface Device driver for keyboard & mouse.

4. Operations

4.1 Push button Operation

You can switch to any desired USB host connection with audio together by pushing the push button on the front panel of KVM Switch. You can also disable Audio Auto-Switch function by Hotkey. Please refer section 4.4.1 Audio Auto-Switch Function.

4.2 Host Selection

4.2.1 Hot Key Support

The hot key function is working on USB keyboard which is plugged at port marked with keyboard logo of the KVM. However, there is no hot key support for the USB keyboard plugged to the USB Hub downstream ports which locate on upper part of the KVM.

4.2.2 Specific Channel Selection

You can select the computer you want to control by the following hot keys:

[Scroll Lock] + [Scroll Lock] + [1]: Switch control to host 1
[Scroll Lock] + [Scroll Lock] + [2]: Switch control to host 2
[Scroll Lock] + [Scroll Lock] + [3]: Switch control to host 3
[Scroll Lock] + [Scroll Lock] + [4]: Switch control to host 4
Note: It will take a little bit more time when switching control to host 4 since the KVM must detect if the host 4 is connecting with smart phone or device built in MHL.

4.2.3 Channel Shift Function

- Switch control to previous host:

[Scroll Lock] + [Scroll Lock] + [Up Arrow]

- Switch control to next host

[Scroll Lock] + [Scroll Lock] + [Down Arrow] or
[Scroll Lock] + [Scroll Lock] + [Enter]

4.2.4 Host Selected Indicator

The Host Selected LED (Red) on KVM front panel indicates the host port status:

- **OFF:** Indicates the host port is not selected.
- **ON:** Indicates the host port is available and selected.
- **Flash:** Indicates the host port is selected but is not available

4.3 USB Hub Selection

4.3.1 USB Hub Switch by Push Button

You must enable Hub Auto-Switch function before you can use push button to switch USB Hub. There are two ways to toggle Hub Auto-Switch alternatively:
Press any push button on KVM front panel for 3 seconds.
By using hot key: [Scroll Lock] + [Scroll Lock] + [H]

After Hub Auto-Switch function is enabled, the Hub auto-switch / Auto-Scan Indicator on front panel will turn ON statically, and USB hub can be switched along with selection of host port by push button on front panel. The USB hub switching time is one second later after port switch, the reason to delay the USB hub switch is to decrease USB enumeration loading if user changes active port very fast.

4.3.2 Hot Key Switch for USB Hub Selection

If Hub Auto-Switch function is disabled, the USB hub switch is independent from host port. You can use the following hot keys to switch USB hub to specific port:

[Scroll Lock] + [Scroll Lock] + [Q]: Switch USB hub to port 1
[Scroll Lock] + [Scroll Lock] + [W]: Switch USB hub to port 2
[Scroll Lock] + [Scroll Lock] + [E]: Switch USB hub to port 3

If Hub Auto-Switch function is enabled, USB hub will be switched along with selection of host port by Hot Key. In this mode, hot key [Scroll Lock] + [Scroll Lock] + [Q/W/E] for USB hub switching are disabled.

[Scroll Lock] + [Scroll Lock] + [1]: Switch both host and hub to port 1
[Scroll Lock] + [Scroll Lock] + [2]: Switch both host and hub to port 2
[Scroll Lock] + [Scroll Lock] + [3]: Switch both host and hub to port 3

4.3.3 Hub Selected Indicator

The Hub Selected LED (Green LED) on KVM front panel indicates the USB hub selection status:

OFF: Indicates the USB hub is not active at this port.
ON: Indicates the USB hub is active at this port.

4.4 Audio Selection

4.4.1 Audio Auto-Switch Function

Press [Scroll Lock] + [Scroll Lock] + [A], then Audio Auto-Switch function will be disabled / enabled alternately. Audio Auto-Switch function is ON by default.

4.4.2 Hot Key Switch for Audio Selection

You can use the following hotkeys to switch audio to indicated port. There is no any indicator for audio selection.

[Scroll Lock] + [Scroll Lock] + [Z]: Switch audio to port 1
[Scroll Lock] + [Scroll Lock] + [X]: Switch audio to port 2
[Scroll Lock] + [Scroll Lock] + [C]: Switch audio to port 3
[Scroll Lock] + [Scroll Lock] + [V]: Switch audio to port 4

4.5 Auto-Scan Function:

4.5.1 Activate Auto-Scan

Press [Scroll Lock] + [Scroll Lock] + [S] will activate Auto-Scan function, and the KVM will shift the display through all the ports sequentially.

4.5.2 Auto-Scan time Interval

The default time interval of Auto-Scan is 5 seconds. You can press the numeric key [1], [2], [3], [4] to adjust the time interval during auto-scan. The mapping table is:

n	Scan Interval
[1]	5 sec.
[2]	10 sec.
[3]	15 sec.
[4]	20sec.

4.5.3 Stop Auto-Scan

- **Press the SPACE key** : The 4-Port USB 3.0 KVM with USB 3.0 Hub with Audio and MHL will stop the Auto-Scan operation by pressing Space key and will stay in the current scanning port.
- **Press any other key on the keyboard :** Press any keys on keyboard excluding number key **[1], [2], [3]** and **[4]** to turn off the Auto-Scan function, the monitor screen will jump back to the original host port before auto-scan.

4.6 Hot Key Summary

Step 1	Step2	Action
Scroll Scroll	H	**Enable/Disable USB HUB Auto-Switch**
Scroll Scroll	! 1	**Switch to host 1**
Scroll Scroll	@ 2	**Switch to host 2**
Scroll Scroll	# 3	**Switch to host 3**
Scroll Scroll	$ 4	**Switch to host 4**
Scroll Scroll	↵	**Switch next host**
Scroll Scroll	↑	**Switch the upper one host**
Scroll Scroll	↓	**Switch the next one host**
Scroll Scroll	A	**Enable/Disable Audio Auto-Switch**
Scroll Scroll	Z	**Switch to the audio 1 (Available only Audio Auto-Switch disabled)**
Scroll Scroll	X	**Switch to the audio 2 (Available only Audio Auto-Switch disabled)**
Scroll Scroll	C	**Switch to the audio 3 (Available only Audio Auto-Switch disabled)**
Scroll Scroll	V	**Switch to the audio 4 (Available only Audio Auto-Switch disabled)**
Scroll Scroll	Q	**Switch to the HUB 1 (Available only USB Hub Auto-Switch disabled)**
Scroll Scroll	W	**Switch to the HUB 2 (Available only USB Hub Auto-Switch disabled)**
Scroll Scroll	E	**Switch to the HUB 3 (Available only USB Hub Auto-Switch disabled)**
Scroll Scroll	S	**Start to Auto-Scan**
No [Scroll Lock] needed	* ! 1	**Auto-Scan time interval is 5 seconds (Available only when Auto-Scan function is ON)**
	* @ 2	**Auto-Scan time interval is 10 seconds (Available only when Auto-Scan function is ON)**
	* # 3	**Auto-Scan time interval is 15 seconds (Available only when Auto-Scan function is ON)**
	* $ 4	**Auto-Scan time interval is 20 seconds (Available only when Auto-Scan function is ON)**

*** Notice: To adjust the interval time for Auto Scan, you do not need to press the [Scroll Lock], and this can be used only by normal number key.**

4.7 Sun Microsystems Function Key Emulation:

There are 16 special functions on the Sun Microsystems keyboard, the KVM Switch can emulate these function keys. Here is the mapping table for Sun Microsystems function key emulation. To active these emulation, you have to press the **LEFT Window KEY** first (this key usually is located between the left **[Ctrl]** and left **[Alt]**), then choice the second relative key.

Sun Microsystems Function Key	Emulation Key
Stop	L_Win & L_Alt
Props	L_Win & L_Ctrl
Compose	L_Win & L_Shift
Front	L_Win & F1
Open	L_Win & F2
Find	L_Win & F3
Again	L_Win & F4
Undo	L_Win & F5
Copy	L_Win & F6
Paste	L_Win & F7
Cut	L_Win & F8
Help	L_Win & F11
Power	L_Win & F12
Mute	L_Win & 1
Volume Down	L_Win & 2
Volume UP	L_Win & 3

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This device generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This has been tested and found to comply with the limits of a Class B computing device in accordance with the specifications in Part 15 of the FCC Rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by plugging the device in and out, the user can try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.